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INTERCHANGE

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JANUARY-JUNE

2018

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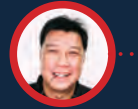


GOING UNDERGROUND

MRT PROJECT'S LATEST INFO CENTRE AT BANDAR MALAYSIA NORTH ● 10
MYEP II GRADUATES RECEIVE CONTRACTS FOR MRT SSP LINE ● 12



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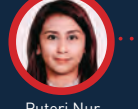
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INTERCHANGE • JANUARY-JUNE 2018

INSIDE THIS ISSUE

FEATURES

- 04** GOING UNDERGROUND
- 06** MRT SUNGAI BULOH-SERDANG-PUTRAJAYA (SSP) LINE STATIONS
- 07** MRT SUNGAI BULOH-SERDANG-PUTRAJAYA (SSP) LINE TRAINS
- 08** STATE OF THE ART FIRE AND RESCUE FACILITIES FOR THE MRT PROJECT
- 09** MRT CORP BUILDS A PARK FOR KAMPUNG SELAMAT
PEDESTRIAN LINK TO CHERAS LEISURE MALL OPENED
- 10** MRT PROJECT'S LATEST INFO CENTRE AT BANDAR MALAYSIA NORTH
2018 VISIT MRT TOUCHPOINTS CAMPAIGN
- 11** UNIVERSITY OF READING STUDENTS VISIT MRT PROJECT
PROLINTAS KNOWLEDGE SHARING SESSION
- 12** MYEP II GRADUATES RECEIVE CONTRACTS FOR MRT SSP LINE
- 13** TRX CITY DELEGATION VISITS MRT DEPOT
MCMC INSPECTS MRT UNDERGROUND STATIONS AND TUNNELS
- 14** INTRODUCING THE MRT PROJECT TO FUTURE USERS
CLQ WORKERS IFTAR
- 15** FOCUS ON PREVENTION OF INCIDENTS

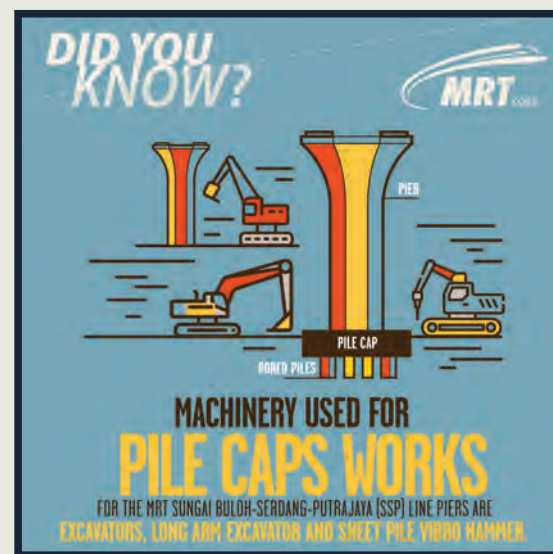
PROJECT UPDATES

- 16** MRT SUNGAI BULOH-SERDANG-PUTRAJAYA LINE PROJECT UPDATES

FEATURES

- 18** JKR SEMINAR ON THE KLANG VALLEY MRT PROJECT

HAPPENINGS



DID YOU KNOW?

A pile cap is a slab that ties together a group of bored piles to support a pier.

Pile cap works are the second stage to constructing piers. Three types of machinery are used for this stage of pier construction and they are excavators, long arm excavators and sheet pile vibro hammers.

MRT Sungai Buloh-Kajang (SBK) Line Hotline:

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Twitter : @askrapidkl | @myrapidkl

Instagram : @myrapidkl

NEW BEGINNING



CLOSE to a year has passed since we launched the full service of the MRT Sungai Buloh-Kajang (SBK) Line, the first MRT service in Malaysia on 17 July 2017. Since then, many Malaysians have benefitted from the country's most modern railway system.

I am happy to note that the number of users has been continuously growing, proving that Malaysians are ready to move away from their cars and use public transport when the route is useful to them. I am confident that the numbers will continue to grow as more development takes shape along the alignment, and as more lines open up in the future.

With the first MRT Line completed – and we were able to do this on time and within the budget – MRT Corp has now shifted its focus to the second MRT line, the MRT Sungai Buloh-Serdang-Putrajaya (SSP) Line. The 52.2km alignment is currently on track to begin its first phase of operations by the second quarter of 2021, with the entire alignment to be completed by the second quarter of 2022.

The project progress as at end of June 2018 is at 30%. The previous edition of Interchange had highlighted the preparation for tunnelling using state-of-the-art tunnel boring machines (TBM).

In this edition, we are glad to report that tunnelling has begun and is proceeding smoothly. The first of twelve TBMs which will be used for the project was launched at Bandar Malaysia North Launching Shaft on 1 March 2018. The launching ceremony marked the official start of underground tunnelling works for the SSP Line.

With that, the tunnelling team will be working hard round the clock to excavate the 13.5km of tunnels for the underground alignment, as well as build the 11 future underground stations. You can read about how challenging the job is for our underground works team in this edition.

Readers can also find in this newsletter reports and stories of the various activities that MRT Corp had participated in to engage with the public. This is done to increase their awareness on the construction of the

SSP Line, for them to have a better understanding on what would happen during the construction period, and how they would benefit from the completed alignment.

In the meantime, MRT Corp would like to take this opportunity to congratulate the new Government of Malaysia. The ruling Pakatan Harapan coalition's success in the 14th General Election testifies the strength of democracy in our country.

MRT Corp also understands and welcomes the Government's need to relook at infrastructure projects in the interest of cost cutting.

To this end, MRT Corp is more than ready to work with the Government to ensure that spending on infrastructure is sustainable and not become a burden to the people. At the same time, MRT Corp also hopes that the importance and benefits of good infrastructure, including a modern MRT system, is recognised and not overlooked.

MRT Corp looks forward to working closely with the Government in fulfilling its pledge to ensure that the welfare and well-being of the rakyat is well taken care of.

Thank you.

DATO' SRI SHAHRIL MOKHTAR

**CHIEF EXECUTIVE OFFICER
MASS RAPID TRANSIT CORPORATION SDN BHD**



GOING UNDERGROUND

LIKE the MRT Sungai Buloh-Kajang (SBK) Line, the central section of the MRT Sungai Buloh-Serdang-Putrajaya (SSP) Line which will serve the central business district of Kuala Lumpur, will be underground.

The 13.5km stretch from Jalan Ipoh in the north to Danau Desa in the south will traverse beneath many busy areas such as Titiwangsa, Hospital Kuala Lumpur, Kampung Baru, KLCC, Conlay, Imbi and Chan Sow Lin, with 11 underground stations serving these and other areas.

As with the SBK line, tunnelling will be done using tunnel boring machines (TBM). A total of 12 TBMs will be used to excavate two parallel tunnels – one for north-bound trains and the other for south-bound trains – for the entire length of the underground alignment.

These tunnels will go beneath major roads such as Jalan Sultan Azlan Shah, Jalan Tun Razak, Jalan Raja Muda Abdul Aziz, Persiaran KLCC, Jalan Chan Sow Lin and Jalan Sungai Besi.

The TBMs will be grouped in pairs to excavate parallel tunnels for designated stretches of the alignment, called 'drives'. A drive stretches from a launching shaft – where the TBMs are assembled and then 'launched' or begin tunnelling – to a retrieval shaft, where the TBMs will be dismantled and then removed after completing their designated drive.

The SSP Line's underground section has been divided into eight drives.

The task of determining the choice of launching and retrieval shafts, length of each drive, and

the schedule for each drive to be excavated is a very complicated process and is called the tunnelling strategy.

Among the factors considered when choosing these shafts include how long the shafts take to be excavated, location, whether there is enough space for the TBMs to be assembled and also whether there is enough space at the surface for the TBM support facilities to be located.

Most of the time, these launching and retrieval shafts are where underground stations will be located. However, there are also shafts which become emergency escape shafts, portals or are filled and covered up after use.

The first TBM for the SSP Line was launched on 1 March 2018 at the Bandar Malaysia North launching shaft, marking the commencement



of tunnelling works. Given the code-name S776, the TBM was joined by its 'pair' S777 which was launched about a month later. Both are excavating towards Chan Sow Lin and then the Tun Razak Exchange Station where the TBMs will be retrieved and dismantled.

Over the next six to 12 months, other TBMs will be launched from the Titiwangsa shaft, Hospital Kuala Lumpur Crossover Box, Conlay shaft and Bandar Malaysia North shaft.

Besides the Tun Razak Exchange Station where the TBMs S776 and S777 will be retrieved, other TBM retrieval locations are at the Escape Shaft 1 at Jalan Ipoh, Hospital Kuala Lumpur Crossover Box (which also acts as a launching shaft), Ampang Park and the Danau Desa south portal.

Although state-of-the-art TBMs will be used to excavate the tunnels, tunnelling underneath Kuala Lumpur is no easy feat. The geological conditions underneath the city makes it one of the most challenging locations to excavate tunnels.

The TBMs would need to run through different geological formations – limestone, Kenny Hill formation and granite – each with different densities.

It is a high-risk job in a high-risk area because the surface above where the tunnelling will take place is densely populated with high-rise buildings or very busy roads.

Many cautionary measures have been taken to mitigate the challenges. One of them is through the use of the Variable Density TBM that was specially designed to handle tunnelling through the karstic conditions posed by the limestone formation.

Significant portions of the SSP Line underground alignment run through limestone conditions, such as at Titiwangsa, Hospital Kuala Lumpur, Jalan Tun Razak, Chan Sow Lin and Bandar Malaysia.

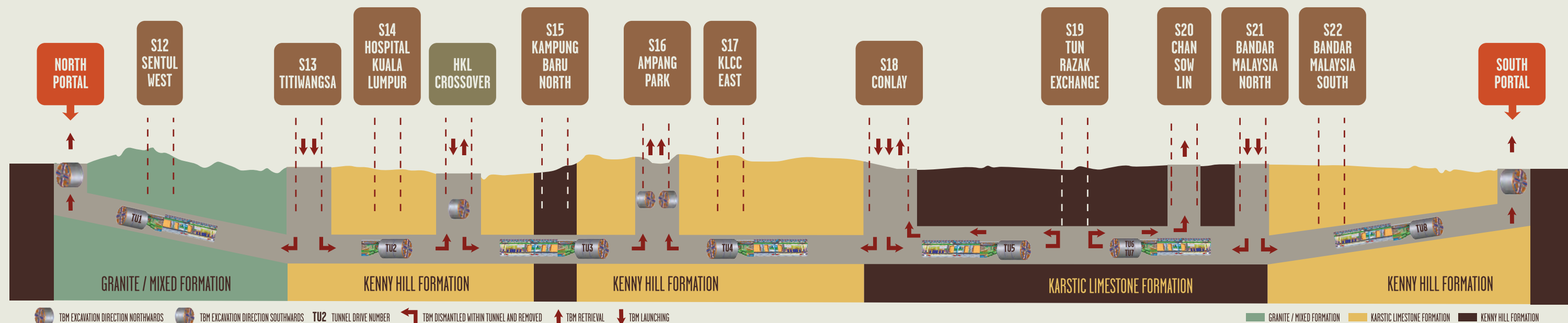
The Variable Density TBM was used for the SBK Line and had proven to be successful in reducing the incidence of sinkholes and blow-outs.

A lot of soil investigation work had also been done so that accurate data on the ground conditions are known. Where necessary, ground improvement works such as grouting had been carried out.

When tunnelling is in progress, constant monitoring of conditions is also carried out both underground and on the surface. Directly above the TBM, a team called the 'bull gang' is assigned to observe ground conditions and sound the alarm at the slightest sign of unusual ground movement.

Adjacent buildings have also been fitted with sensors and markers and readings will be monitored closely.

With the experience learnt from past projects and the modern equipment and machinery being used, construction the underground section of the SSP Line should be able to be progress smoothly, efficiently and safely. 🚧



MRT SUNGAI BULOH-SERDANG-PUTRAJAYA (SSP) LINE STATIONS

ELEVATED STATIONS

THE upcoming design for the MRT Sungai Buloh-Serdang-Putrajaya (SSP) Line elevated stations is based on the Serambi concept.

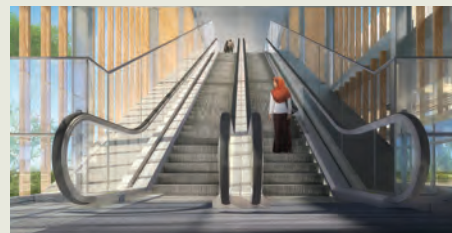
This concept is focused on inspiring interaction or communication at a foyer or entrance space of a house, hall, such as the entrance space at a kampung house or long house (rumah panjang).

The design is simple and timeless. It is derived from various design concepts, including that of the Japanese 'Zen' concept.

“ THIS CONCEPT IS FOCUSED ON INSPIRING INTERACTION/ COMMUNICATION ”

Other aspects include open space, natural lighting, ventilation and natural visual effects via play of lighting and shadows.

Compared to the MRT Sungai Buloh-Kajang (SBK) elevated station design, the columns have been pushed to the sides of the station, giving the station an open and airy feel. 🚇



UNDERGROUND STATIONS

EACH of the eleven SSP Line underground stations will carry its own individual theme.

The proposed designs range from preserving the rustic, reflecting tidal rhythm, promoting well-being, vibrancy, pulse of life, discovering culture, moulding forms, inspired by nature to streamlined flow. 🚇



MRT SUNGAI BULOH-SERDANG-PUTRAJAYA (SSP) LINE TRAINS

THE trains that will be used for the MRT Sungai Buloh-Serdang-Putrajaya (SSP) Line will be supplied by HAP Consortium. This consortium consists of Hyundai Rotem of South Korea, APEX Communications Sdn Bhd and POSCO Engineering Co Ltd, also from South Korea.

A total of 58 train sets, with four cars each, will be used for the SSP Line.

The maximum load capacity of the trains is 1,204 passengers per train. It is expected that the train frequency during peak periods will be at 3.5 minutes.

Like those for the MRT Sungai Buloh-Kajang (SBK Line), the train for the SSP Line will be driverless. Train movement will be controlled from the Operations Control Centre located at the MRT Sungai Buloh Depot. 🚇

58 ELECTRIC TRAINS

4 CARS OF TRAIN

1204 PASSENGERS

100KM PER HOUR



EXTERNAL DESIGN

- The exterior design of the train takes into consideration the view of the train when entering the station and along the platform.
- The livery colour emphasises the powerful expression of the front-end style.
- The front end-mask is made out of strongly structured shapes and volumes, expressing decisiveness, safety and confidence.

INTERIOR DESIGN

- The gangway area is wide and open for easy circulation, giving the sensation of an uninterrupted passenger area all through the train.
- Handrails and grab handles are located at altitudes compatible for reach and comfort of all passengers.
- The seats are in an assortment of blue colours to bring visual animation and echoes the Putrajaya Lake surroundings.
- The draught screens are straightforward, no-nonsense for optimised traveller protection and their lightly tinted glass is of contrasting clear patterns for subtlety.
- The ceiling pattern makes use of subtle graphic effects of matte and shine.
- Grab poles and rails bear a sharply contrasting yet matching colour for better visibility.



STATE OF THE ART FIRE AND RESCUE FACILITIES FOR THE MRT PROJECT

THE high risks of underground construction have resulted in the contractor for the underground section of the MRT Sungai Buloh-Serdang-Putrajaya (SSP) Line acquiring some of the most sophisticated hardware and machinery for fire and rescue.

MMC- Gamuda KVMRT (T) Sdn Bhd Project Director Mr Satpal Bhogal said the company places high emphasis on safety and had to be capable of handling any kind of accident, whether occurring above or underground.

The types of accidents, he added, had been identified via a risk assessment exercise and MGKT had taken the step to procure the necessary equipment and employ trained people to handle such accidents.

Adding to what Satpal said, MGKT Safety, Health and Environment Head Mr Christopher Felton explained that MGKT had 40 full-time Emergency Response Team were on duty 24 hours a day, seven days a week on standby basis for any emergencies that might occur.

"The crew and equipment are based at Chan Sow Lin and Titivangsa to attend to any incident along the SSP Line alignment within 10 minutes," he said.

He said the equipment used were slightly different from those which the Fire and Rescue

Service and other emergency agencies had because they cater specifically to incidents which could occur underground and in confined areas.

Among the special equipment used for underground emergency scenarios is the usage of a spreader. The main function of a spreader is to open up a vehicle such as trains, locomotives and cranes. Another type of equipment is a hydraulic ram. This is used for space creation in underground tunnels.

Thermal imaging cameras are also used should fire occur, allowing firefighters to see areas of heat through smoke, darkness or heat-permeable barriers.

To demonstrate the capabilities of the emergency rescue team, a fire and rescue exercise was organised on 23 April 2018 at the Bandar Malaysia North Station site. Members of the media were invited to witness this event.

This exercise included a demonstration on how rescue operations are carried out following a serious road traffic collision involving two vehicles with multiple victims trapped in the vehicles.

Upon arriving at the 'accident scene', the team first cordoned the area. They then took steps to make the situation as safe as possible to enable

them to carry out the rescue operations. Using cutters and saws, managed to remove the roof of one car to remove one 'victim' while the other 'victim' was extricated after removing the windscreen.

To made the exercise more real, there were sounds of explosions and a lot of smoke from the wreckage.

The exercise was seen as a success as the team managed to extricate the 'victims' from the car safely within the time limit of 20 minutes. 🚒



■ **WELL DONE:** The Fire and Rescue Team pose for a group photo after the successful exercise.



■ **PARK TOUR:** Najmuddin (left) leading the walk around the Taman Linear, Kampung Selamat recreational park.

MRT CORP BUILDS A PARK FOR KAMPUNG SELAMAT

MASS Rapid Transit Corporation Sdn Bhd (MRT Corp) constructed a recreational park near the Kampung Selamat MRT Station with the hope of it becoming a recreational area for the residents of Kampung Selamat and other areas in the vicinity.

Called Taman Linear Kampung Selamat, the 600-square-metre park is located on reserve land owned by Syarikat Bekalan Air Selangor

Sdn Bhd (SYABAS) which was used as a construction site for the MRT Sungai Buloh-Kajang (SBK) Line.

The park was created as part of MRT Corp's corporate social responsibility programme and was the result of a collaborative efforts by SYABAS, Eco Collaboration Sdn Bhd as the consultant for the park, Petaling Jaya City Council (MBPJ) and MRT Corp.

A simple ceremony marking the handing over of the park to MBPJ was held on 27 January 2018. With the handover, MBPJ officially became the owner of the park.

Amongst the individuals who attended the ceremony were MRT Corp Strategic Communications and Stakeholder Relations

Director Dato' Najmuddin Abdullah, MMC-Gamuda KVMRT (PDP) Sdn Bhd MRT SBK Line Deputy Project Director Encik Maslan Othman, MBPJ Landscaping Head Puan Zuraidah Sainan, SYABAS Distribution Operations Deputy Head Encik Yusof Saroji and Eco Design Collaboration Sdn Bhd Director Encik Fathullah Mohd Nor and the residents of Kampung Selamat.

Speaking at the ceremony, Kampung Selamat representative Encik Ramli Yahya said he was hopeful that the park will be beneficial for those staying in the area.

"The initiative that MRT Corp had presented to our community is invaluable and that this park will not only act as a park for those to exercise, but also a walkway to get to the station." 🚶



PEDESTRIAN LINK TO CHERAS LEISURE MALL OPENED

THE elevated pedestrian link bridge between the Taman Mutiara MRT Station of the MRT Sungai Buloh-Kajang (SBK) Line and the Cheras Leisure Mall has been constructed to provide easy access between stations and neighbouring commercial buildings.

The opening of the 65m link was marked by a ceremony on Friday, 26 January 2018.

The link was opened by PPB Group Managing Director Mr Lim Soon Huat and his Chief Operating Officer Mr Chew Hwei Yeow. PPB

Group is the owner of the mall and built the link bridge with close consultation with Mass Rapid Transit Corporation Sdn Bhd (MRT Corp).

Representing Rapid Rail Sdn Bhd at the event was its Chief Executive Officer Tuan Haji Muhammad Isom Azis while Strategic Communications and Stakeholder Relations General Manager Mr Leong Shen-Li represented MRT Corp.

Also present were celebrities Ms Amber Chia and Ms Nina Kho, radio DJ Mr Liang Kim Loong

and social media influencer Baby Akiyo.

During the event, PPB Group also opened the newest section of the mall which offered new food and beverage as well as other retail outlets.

The pedestrian link bridge connects to Entrance B of the Taman Mutiara Station. It is fully air-conditioned and was designed for universal access. 🚶



MRT PROJECT'S LATEST INFO CENTRE AT BANDAR MALAYSIA NORTH

THE MRT Project has opened a purpose built information centre at the Bandar Malaysia North worksite to care specifically to disseminating information about the MRT Sungai Buloh-Serdang-Putrajaya (SSP) Line's underground works.

This facility is located next to the Bandar Malaysia North Station and Launching Shaft Site is the third to be opened by Mass Rapid Transit Corporation Sdn Bhd (MRT Corp). The other two are located in Jalan Sultan Azlan Shah and Seri Kembangan respectively.

This information centre was officially opened on 1 March 2018 during the official launch of Tunnelling Works for the SSP Line.

The information centres were set up to educate the public regarding the MRT Project.

The new MIC at Bandar Malaysia North will be used by MRT Corp and underground works contractor for the SSP Line, MMC-Gamuda KVMRT (T) Sdn Bhd (MGKT), which operates the MIC, to carry out engagement activities to help increase the awareness and exposure of the project.

The most frequent of visitors to the facility since its opening are University students and officials from Government agencies.

Besides having background information regarding the SSP Line's underground works, this MIC also has a scaled-model of a tunnel boring machine (TBM). TBMs are used to excavate tunnels for tracks to run underground.

Information boards regarding the different underground conditions that the machine has to go through during tunnelling works is also displayed.

As with the other MICs, the 'Hawkeye' application that showcases the alignment for the SSP Line is also made available for visitors to the MIC.

This information centre is open to the public but a prior appointment has to be made before making a trip to this MIC. Call 03-2385 8000 or email to sherina@kvmrt-ug.com.my for appointments. 📞



■ **THE MACHINE:** A scaled-model TBM which is the machine used for underground tunnelling works displayed inside the Bandar Malaysia North MIC.

2018 VISIT MRT TOUCHPOINTS CAMPAIGN

A CAMPAIGN to promote the MRT Project touchpoints was organised in the beginning of this year where visitors could win the 2018 MRT Calendar and Notebook.

The objective of this campaign, which was held from 15 January 2018 till 25 January 2018, was to encourage the public to visit the MRT Project touchpoints as well as increase their popularity. The touchpoints were set up to help the public find out more information about the MRT Sungai Buloh- Serdang-Putrajaya (SSP) Line.

The touchpoints set up by Mass Rapid Transit Corporation Sdn Bhd (MRT Corp) include two MRT Information Centres (MIC) located at Jalan Sultan Azlan Shah (formerly Jalan Ipoh) and Seri Kembangan, an MRT Information Kiosk (MIK) and the MRT Information Truck (MIT).

The MIK is a mobile booth with information about the MRT Project which is set up at shopping centres, Government offices, public transport stations and hubs. The kiosk is station at a location for two months before moving to a new location. The MIT is a mobile information truck that roams the SSP Line alignment and the location of it changes on a daily basis. The live information on the location of the MIT can be found on MRT Corp's website.

During the campaign, visitors were quizzed five questions about the SSP Line. Answers could actually be found in and around the touchpoints such as the information boards, MRT newsletters and SSP Line project information brochures.

Participants stood a chance to win the 2018 MRT Corp calendar and notebook by answering a quiz correctly.

"It is definitely a great initiative by MRT Corp to help increase the awareness in promoting the SSP Line. I really can't wait for it to be fully operational by 2022 as I trust this service will prove to be beneficial for more people in addition to those already using the first MRT line," said Encik Mohd Aiman, one of the winners of the campaign. 🚗



■ **HAPPY FACES:** Encik Mohd Aiman (left) and Encik Nazreen Emir (right) pose for a photo with their winning prizes at the MIK at Bukit Bintang MRT Station.

UNIVERSITY OF READING STUDENTS VISIT MRT PROJECT



THE Klang Valley MRT Project continued to attract interest from students with 34 undergraduates from the University of Reading (Malaysia campus) visited the MRT Information Centre, Jalan Sultan Azlan Shah.

They were Bachelor of Science students majoring in Quantity Surveying. The visit to the facility on 13 March 2018 was part of study trip to the Klang Valley to learn more about the MRT Sungai Buloh-Serdang-Putrajaya (SSP) Line, particularly about the Digital Engineering technology used in the project.

Mass Rapid Transit Corporation Sdn Bhd (MRT Corp) Planning and Design Senior Manager Encik Aswadi Yusof gave a presentation to the students. He began his presentation by sharing that the current project progress. Aswadi then went on to describe the roles that digital engineering play in the SSP Line.

With the MRT Project being a mega infrastructure project in the country, he explained that one of the challenges was the complexity in designing the stations. With that, digital technology needed to be used.

He explained that the project used Building Information Modelling (BIM) for the design and construction.

BIM is a process for creating and managing information on a construction project across the project lifecycle in a virtual environment. It allows users to visualise, collaborate and analyse every aspect in engineering design.

The SSP Line also used Geographic Information System (GIS), an advanced mapping tool that is designed to capture, store, manipulate, analyse and present all types of geographical data. It allows data from all departments to be unified in terms of access to information and presented on interactive maps.

A case study of the use of BIM and GIS technology in the construction of the Titiwangsa MRT Station was demonstrated to the students. The visit ended with lunch being served to the students. 🍽️

KNOWLEDGE SHARING SESSION WITH PROLINTAS

A KNOWLEDGE sharing session was organised by Mass Rapid Transit Corporation Sdn Bhd (MRT Corp) with Projek Lintasan Kota Holdings Sdn Bhd (PROLINTAS), the concessionaire for several toll expressways in the Klang Valley.

The objective of the session was to further understand the roles and functions of MRT Corp.

Wholly-owned by Permodalan Nasional Berhad (PNB), PROLINTAS is the operator of the Guthrie Corridor Expressway and Kajang SILK Highway.

It is also currently constructing the Damansara-Shah Alam (DASH) Highway.

PROLINTAS Group Chief Executive Officer Dato' Mohammad Azlan Abdullah led the 33-strong delegation. Hosting them was MRT Sungai Buloh-Serdang-Putrajaya (SSP) Line Project Director Dato' Amiruddin Ma'aris.



■ **GRATITUDE:** Amiruddin (left) accepting a token of appreciation from Azlan (right).

Amiruddin presented a general introduction of the Klang Valley MRT Project.

This was followed by presentations on safety by MRT Corp Standard and Compliance Director Encik Mohd Yusof Kasiron, and strategic communications and stakeholder relations by MRT Corp Strategic Communications and Stakeholder Relations Manager Mr Wallace Soh Chun Hwei.

The final presentation was on contracts management by MRT Corp Contract Management Assistant General Managers Encik Hasnul Hashimi and Mr Lau Pui Weng.

The knowledge sharing session ended with a memento presentation before lunch. 🎁



MYEP II GRADUATES RECEIVE CONTRACTS FOR MRT SSP LINE

THE success of the second MRT Young Entrepreneurship Programme (MYEP II) was proven when five subcontract work packages were awarded to five Bumiputera companies which were set up under the programme.

The five companies were selected through a balloting session that was held at the Ministry of Works on 3 April 2018. The session was witnessed by then Minister of Works, Dato' Sri Haji Fadillah Yusof.

A ROBUST 12-MONTH PROGRAMME WHICH INCLUDES A SIX-MONTH INTENSIVE, PROFESSIONAL CONSTRUCTION INDUSTRY TRAINING SESSIONS

The MYEP II programme is a robust 12-month programme which includes a six-month intensive, professional construction industry training sessions by the Construction Industry Development Board (CIDB), three-month management and motivation training course by Perbadanan Usahawan Nasional Berhad (PUNB) and a three-month site attachment supervised by MMC-Gamuda KVMRT (PDP SSP) Sdn Bhd, the Project Delivery Partner for the MRT Sungai Buloh-Buloh-Serdang-Putrajaya (SSP) Line.

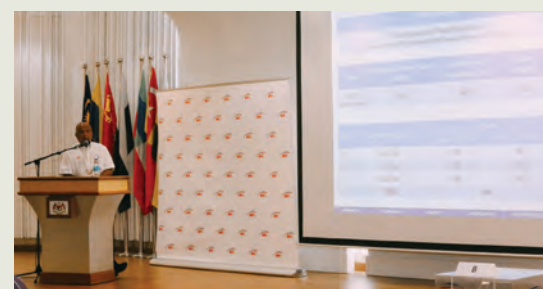
At the end of the programme, 54 participants graduated and formed 24 companies, obtaining CIDB Grade G2 licenses.

The total value of the five subcontracts that were awarded was at a value of RM 1.9 million.

Besides the five subcontracts, 28 other subcontracts with a total value of RM 13.62 million were also balloted for Bumiputera contractors for the SSP Line.



OPENING REMARKS: Fadillah giving his opening remarks during the balloting session.



THE PROCESS: MRT Corp Administration and Bumiputera Relations General Manager Encik Zarif Zainul explaining about the balloting process.



HAPPY FACES: Fadillah poses for a photo with the MYEP II graduates.



THE DEPOT: Tarenjit (third from right) showcasing the facilities of the Sungai Buloh MRT Depot to the visitors.

TRX CITY DELEGATION VISITS MRT DEPOT

A DELEGATION of nine from Tun Razak Exchange (TRX) City Sdn Bhd visited the Sungai Buloh Mass Rapid Transit (MRT) Depot to further understand the concept and design of MRT's facilities and the way it monitors and manages the MRT service.

TRX City is the master developer of Tun Razak Exchange, Malaysia's upcoming financial district.

Mass Rapid Transit Corporation Sdn Bhd's (MRT Corp) Sungai Buloh-Kajang (SBK) Line Defect Liability Period Director Mr Tarenjit Singh Khella led the visitors during the visit which took place on 13 April 2018. He was accompanied by MRT SBK Line Operator Rapid Rail Sdn Bhd SBK Line Chief Operating Officer Encik Azmi Mohd Zain.

During the visit, Tarenjit explained the layout of the depot and how it catered for both trains for the MRT SBK Line and also the upcoming MRT Sungai Buloh-Serdang-Putrajaya (SSP) Line.

He said the Sungai Buloh Depot is one of two train depots for the SBK Line. The other train depot is located at the southern alignment of the service in Kajang. This depot is where light maintenance of the trains is being done.

The delegation then visited the observation deck of the Operations Control Centre (OCC) where they saw the live movement tracking of trains.

Azmi explained that data from the automatic fare collection gates could also be obtained from each individual station. This feature enabled Rapid Rail to monitor the number of users and gather information about the busiest stations.

The visit ended with a walkabout of the Rolling Stock Maintenance Office and stabling yard. These two facilities are where the trains are maintained upon completion of operations and also tested before operations commences.

MCMC INSPECTS MRT UNDERGROUND STATIONS AND TUNNELS



THE Malaysian Communications and Multimedia Commission (MCMC) conducted an inspection of the MRT Sungai Buloh-Kajang (SBK) Line underground section to ensure mobile network connectivity complied to standards.

Led by MCMC Communications and Digital Ecosystem Sector Chief Officer Dato' Mohd Ali Hanafiah, the team tested out the mobile network connectivity for all major

telecommunications operators such as Maxis, Celcom, Digi, U Mobile, Yes Network and WEBE. The inspection, which took place on 26 April 2018, involved both underground stations and tunnels.

MCMC said the results of the inspection was satisfactory with high 3G and 4G coverage available throughout. The technology deployed for the Commercial Mobile Telecommunication System (CMTS) integrates Central Data

Management Unit (CDMU), Frequency Division Duplex (FDD) and Test-Driven Development (TDD) technology in the same platform.

Mass Rapid Transit Corporation Sdn Bhd (MRT Corp) SBK Line Defect Liability Period (DLP) Director Mr Tarenjit Singh Khella led the team from Cochrane MRT Station to Merdeka Station and then Muzium Negara Station. He was assisted by SBK Line DLP Communication Project Manager I Encik Mohammad Shazleigh Omar.

Shazleigh explained that the CMTS components such as cables, antenna and active equipment was integrated to ensure that the connectivity was seamless and at optimum performance. He also explained that the system uses two 'leaky cables' in the tunnel to ensure full coverage and performance for the passengers in the trains.

At the Muzium Negara MRT Station, wi-fi connectivity was being tested. Ali said he was impressed with the speed of the wi-fi and believed that this facility would be very popular. Testing was also being carried out on two selected trains.

The visit ended with a short trip to the elevated Phileo Damansara MRT Station before returning to Cochrane MRT Station.



INTRODUCING THE MRT PROJECT TO FUTURE USERS

BUILDING upon the success of two previous Hari Ceria in 2017, Mass Rapid Transit Corporation Sdn Bhd (MRT Corp) organised two more such events in the first half of 2018.

On 30 April 2018, 28 children of Yayasan Chow Kit (YCK) were invited to the Jalan Sultan Azlah Shah MRT Information Centre (MIC) while on 4 May 2018 the MIC at Seri Kembangan hosted 22 children from Al-Baghdati Playtime Centre.

The main objective of this programme is to educate the young about the MRT Project and the importance of public transportation.

This initiative was a collaborative effort between MRT Corp and the Project Delivery Partner for the MRT Sungai Buloh-Serdang-Putrajaya (SSP) Line, MMC-Gamuda KVMRT (PDP SSP) Sdn Bhd.

These two schools were selected to be part of this programme as they are located along the SSP Line.

Activities for these children included colouring a picture depicting the train to be used for the SSP Line and also a jigsaw puzzle contest illustrating the MRT stations.

Winners of the contests brought prizes worth RM100, a certificate of participation and their artwork, displayed in an IKEA frame.

Commenting on the programme, YCK Programme Executive Jamil Ishak said, "The YCK children enjoyed their trip to the MRT Information Centre and are looking forward to more activities. They rarely have this type of opportunity with external parties. We would love to engage with MRT Corp for future betterment of the children."

Many of the children from YCK are from underprivileged families or are orphans. 🚗



■ **WINNER:** Bilal Ahmad (right) receiving his prize after being announced as the colouring contest winner from MRT Corp Strategic Communications and Stakeholder Relations Manager Puan Fizliana Hilda Fahrurrazzi (left).

CLQ WORKERS' IFTAR

MASS Rapid Transit Corporation Sdn Bhd (MRT Corp) hosted an iftar (breaking of fast) for workers of the MRT Sungai Buloh-Serdang-Putrajaya (SSP) Line.

Held on 24 May 2018 at the V202 Centralised Labour Quarters (CLQ) in Sungai Buloh, the iftar was attended by MRT Corp Standard and Compliance Director Encik Mohd Yusof Kasiron and MMC-Gamuda KVMRT (PDP SSP) Sdn Bhd CLQ General Manager (R) Dr Mohd Fuad Omar.

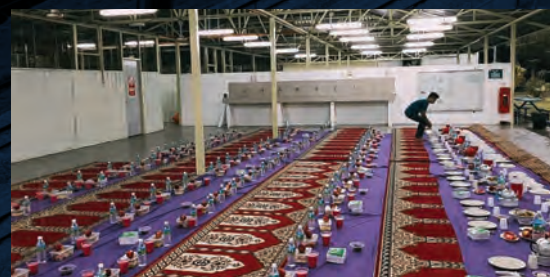
The labour workers were from Work Packages V201, V202 and V203. The contractors of these packages are Sunway Construction Sdn Bhd (V201), Ahmad Zaki Sdn Bhd (V202) and IJM Corporation Berhad (V203).

Over 120 workers took part in the iftar, who enjoyed the food and also the spirit of togetherness.

The iftar was a way for MRT Corp and its partners to thank the workers who have been working hard to construct the SSP Line. 🍽️



■ **THE PRAYER:** Yusof (left) leading the Maghrib prayer after the breaking of fast.



■ **ALL READY:** The iftar set up inside the V202 CLQ.



■ **GRATEFUL:** The foreign labour workers citing prayers (doa) before breaking of fast.



■ **TASTY:** The foreign labour workers enjoying the food.



FOCUS ON PREVENTION OF INCIDENTS

THIS year's Klang Valley Mass Rapid Transit (KVMRT) Occupational Safety and Health (OSH) Conference which was held at the KVMRT Training Centre, Sungai Buloh on 17 and 18 April 2018 focussed on the theme 'Prevention of Incidents'.

The annual conference was held in conjunction with the World Day for Safety and Health at Work 2018.

This conference was launched by Department of Occupational Safety and Health (DOSH) Deputy Director General Ir Kormain Mohd Noor.

Participants of the conference included employees of Mass Rapid Transit Corporation Sdn Bhd (MRT Corp), DOSH, Department of Environment (DOE), staff of Work Package Contractors (WPC) for the MRT Sungai Buloh-Serdang-Putrajaya (SSP) Line, and staff of MMC-Gamuda KVMRT (PDP SSP) Sdn Bhd, the Project Delivery Partner for the SSP Line.

Kicking off the conference, Encik Muzakir Ab Lafit from the Malaysia Energy Commission presented on Electrical Safety.

This was followed by a presentation by DOSH Building Construction Division Director Encik Nazruddin Mat Ali who spoke about world-tower crane accidents.

One of the most interesting topics was on 'Stress at Work'. This presentation was given by the Social Security Organisation's Occupational Disease Unit Medical and Rehabilitation Department Manager Dr Edrin Nazri Abdul Rasib.

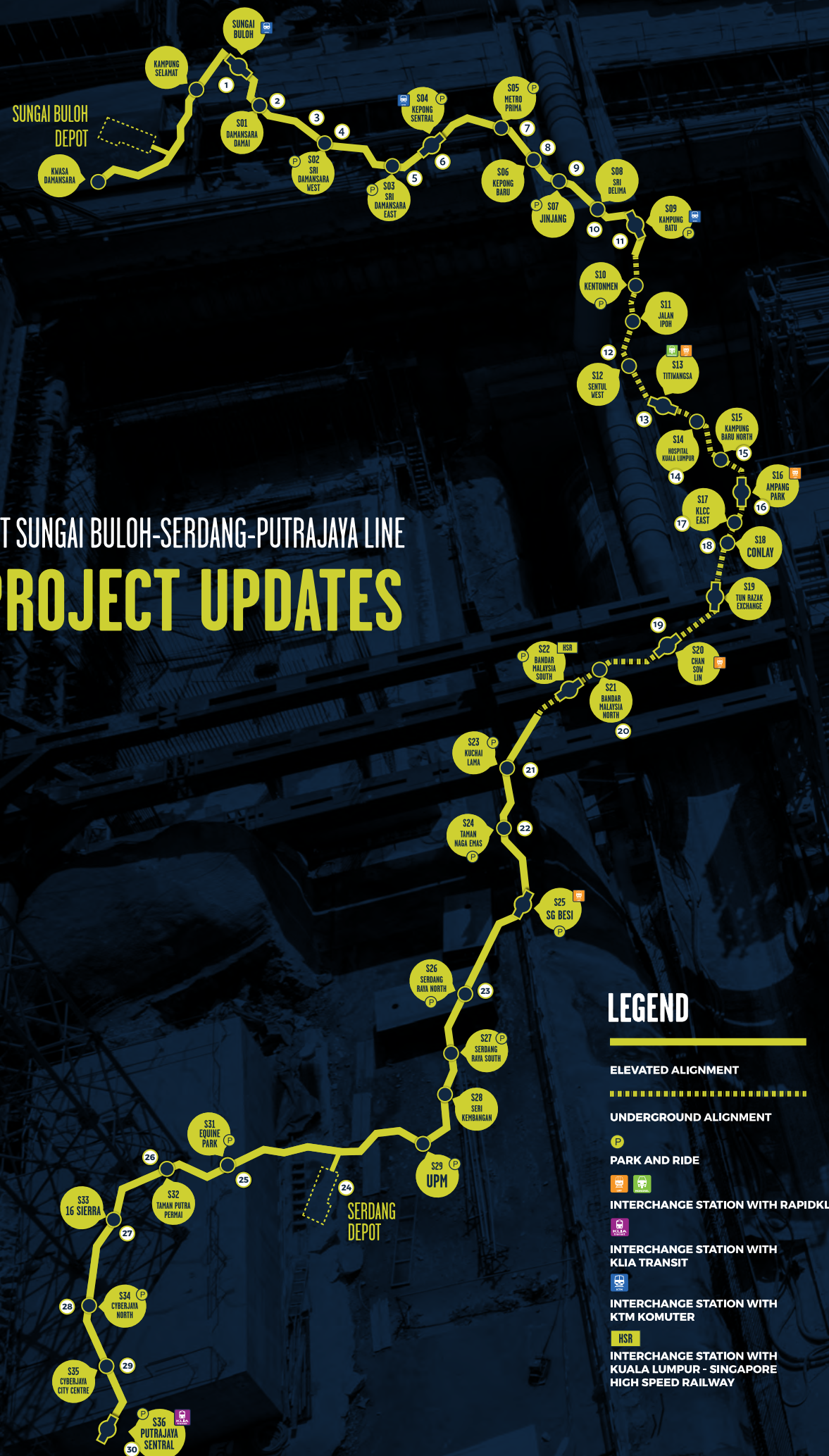
On the second day, CIDB Malaysia Quality and Safety Manager Puan Mazurah Ismail provided an overview of the Safety and Health Assessment System in Construction (SHASSIC). This assessment system is a common standard for safety and health for contractors in the construction industry.

Attendees of the conference were then tested about their knowledge SHASSIC.

A prize presentation ceremony for various competitions leading up to the OSH Day was also conducted during the conference. There were competitions organised for MRT Corp employees and as well as for the staffs of the PDP and WPCs. The aim of these competitions was to increase awareness about safety components of the project. 🏆

“THERE WERE COMPETITIONS ORGANISED FOR MRT CORP EMPLOYEES AND AS WELL AS FOR THE STAFFS OF THE PDP AND WPCS.”

MRT SUNGAI BULOH-SERDANG-PUTRAJAYA LINE PROJECT UPDATES



1 Construction of piers opposite the IGB International School at Sungai Buloh.

2 Construction of the Damansara Damai MRT Station crosshead.

3 A launching gantry being prepared for segmental box girder launching near Muhibbah Showroom in Prima Damansara.

4 Construction of pile caps at the Sri Damansara West MRT Station site in Bandar Sri Damansara.

5 Preparation of the construction of the ground slab at the Sri Damansara East MRT Station site in Bandar Sri Damansara.

6 Pier construction at the Kepong Sentral MRT Station site in Kepong.

7 Segmental box girders being launched at the Metro Prima MRT Station site in Kepong.

8 View of the completed viaducts at the Kepong Baru MRT Station site in Kepong.

9 Construction works at the Jinjang MRT Station site at Jinjang.

10 Construction works at the Sri Delima MRT Station site near Kampung Sri Delima, Jinjang.

11 Construction of piers and maintained load test being carried out at the Kampung Baru MRT Station site.

12 Struts holding apart the diaphragm wall of the Sentul West Station box.

13 Rebar works at the Titiwangsa MRT Station site.

14 Construction of the diaphragm wall at the Hospital Kuala Lumpur Station site.

15 Rebar works at the Kampung Baru North Station site.

16 Construction work at the Ampang Park MRT Station site.

17 Aerial view of construction work at the KLCC East Station site.

18 Gantry cranes above the Conlay Station box.

19 Ground anchor and rock strengthening works at the Chan Sow Lin MRT Station site.

20 View of the tunnel boring machine inside the Bandar Malaysia North launching shaft which will be used as a station box.

21 Pile cap construction at the Kuchai Lama Station site.

22 Bored pile testing in progress at the Taman Naga Emas Station site.

23 Segmental box girders being assembled using the trestle method at the Serdang Raya North Station site in Seri Kembangan.

24 Construction of a bebo arch at the Serdang Depot.

25 Launching gantry being erected for the launching of segmented box girders at the Equine Park Station site in Seri Kembangan.

26 Aerial view of piers being constructed at the 16 Sierra Station site in Seri Kembangan.

27 Piers being constructed at the 16 Sierra Station site in Puchong.

28 Pier construction at the Cyberjaya North Station site in Cyberjaya.

29 Station crossbeam construction at the Cyberjaya City Centre Station site in Cyberjaya.

30 Completed piers at the Putrajaya Sentral MRT Station site.

HAPPENINGS



JKR SEMINAR ON THE KLANG VALLEY MRT PROJECT

THE two-day Seminar on Klang Valley MRT Project: Knowledge Sharing which was organised by the Public Works Department (JKR) and Mass Rapid Transit Corporation Sdn Bhd proved to be a useful platform to share experiences gained from developing Malaysia's largest infrastructure project.

Held at JKR's Centre of Excellence for

Engineering and Technology in Simpang Ampat, Alor Gajah, Melaka, the seminar saw 10 speakers from MRT Corp present various facets related to the development of the completed MRT Sungai Buloh-Kajang (SBK) Line and the upcoming MRT Sungai Buloh-Serdang-Putrajaya (SSP) Line.

The event was officiated by the Works Ministry Secretary General Dato' Sri Zohari Haji Akob.

The panel speakers consisted of SSP Line Project Director Dato' Amiruddin Ma'aris, Strategic Communications and Stakeholder Relations Director Dato' Najmuddin Abdullah, then Standard and Compliance Director Tuan Syed Mahdhar Syed Hussain, MRT SBK Line Defect Liability Period Head Mr Tarenjit Singh Khella, Procurement Head Sr Hasnul Alfian

Harun and Contract Management General Manager Sr Azita Mohamed Tahir.

The speakers covered a wide range of topics, both technical as well as non-technical aspects of the Project.

After each presentation, questions from the floor were taken and the participants made full use of the opportunity to ask questions on various aspects of the MRT Project.

MRT Corp also deployed its MRT Information Truck (MIT) to CREaTE during the two-day seminar.

More than 400 participants attended the two-day seminar, consisting mostly of JKR staff members from across the country. 🇲🇾



■ **INFORMATION:** Azita providing information about the MRT Project.



■ **PANEL SPEAKERS:** A group photo of some of the speakers from MRT Corp (from left); Hasnul, Azita, Najmuddin, Development Building Control Deputy General Manager Ir Muhamad Zulqarnain Ismail and Planning and Design Senior Manager Encik Ahmad Aswadi Yusof.



■ **GOOD CROWD:** A view of the audience during the seminar.



COURTESY VISIT: MRT Corp's Integrity Ambassadors visited the Malaysian Anti-Corruption Commission (MACC) Headquarters in Putrajaya on 25 January 2018.



INFORMATION: MRT Corp participated in the Companies Commission of Malaysia (SSM) #JOMPICNIC SSM programme held at Titiwangsa Lake Gardens on 10 February 2018.



INFO SHARING: MRT Corp gave a presentation on the MRT Project at the 'Investors Briefing on Danalnfra Financing Programmes and Progress Updates on Mandated Projects' on 14 March 2018.



GIVING BACK: IJM Corporation Berhad, Work Package Contractors for the MRT Sungai Buloh-Serdang-Putrajaya (SSP) Line Package V203, organised a blood donation drive for its foreign labourers on 27 March 2018.

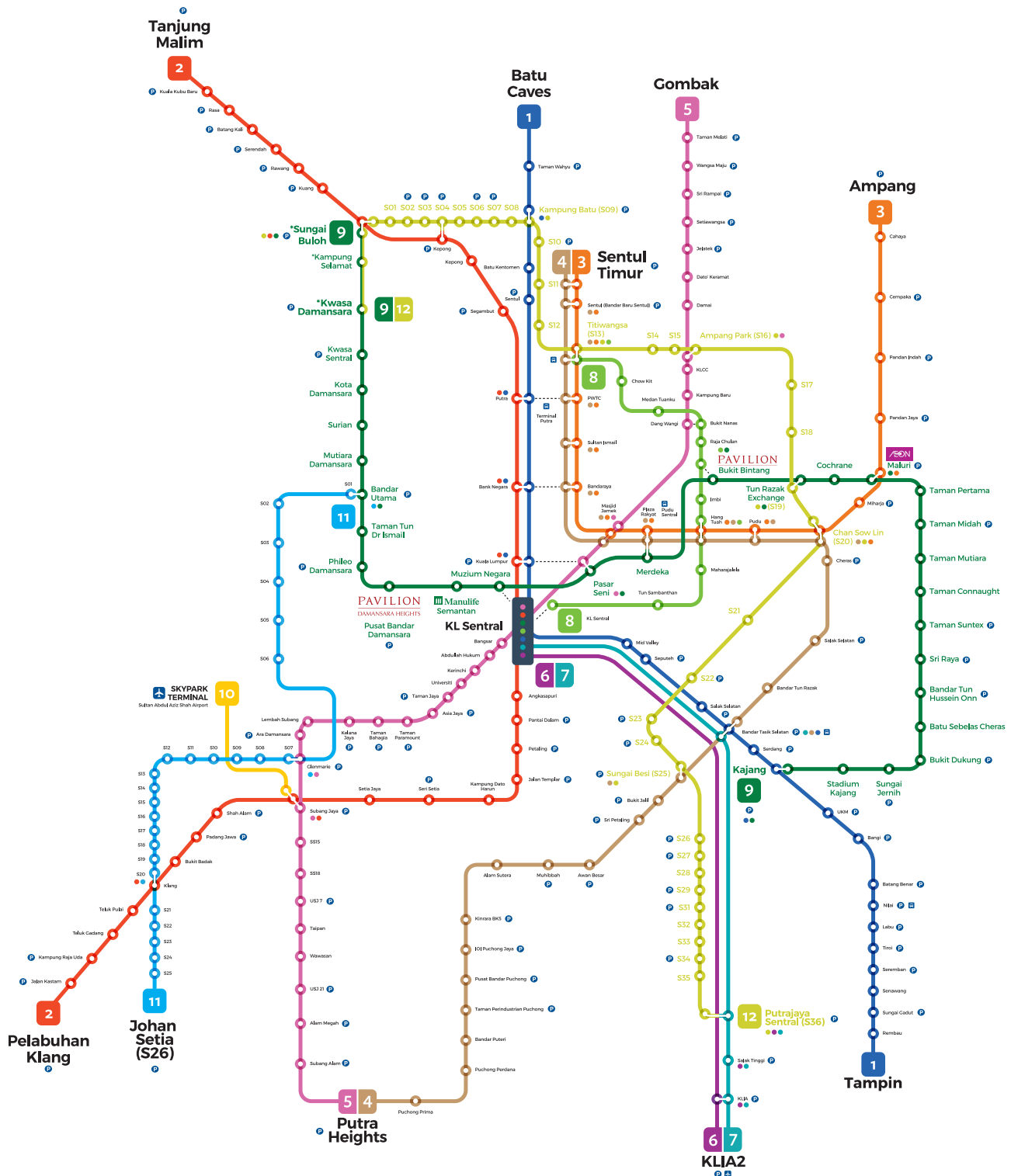


SUPPLY CHAIN CONFERENCE: MRT Corp participated in the National Supply Chain Conference on Rail Projects and Career Fair at Putra World Trade Centre on 11-12 April 2018.



SELECTED: The 10th MRT Sungai Buloh-Serdang-Putrajaya (SSP) Line Bumiputera contractors balloting session was held on 7 June 2018.

KLANG VALLEY RAIL TRANSIT MAP



Legend

1 KTM Seremban Line	5 LRT Kelana Jaya Line	9 MRT Sungai Buloh-Kajang Line	Connecting Station	Airport Terminal
2 KTM Port Klang Line	6 ERL KLIA Ekspres Line	10 KTM Skypark Line	Interchange Station	Park and Ride
3 LRT Ampang Line	7 ERL KLIA Transit Line	11 LRT Bandar Utama-Klang Line	Rail Terminal	
4 LRT Sri Petaling Line	8 KL Monorail Line	12 MRT Sungai Buloh-Serdang-Putrajaya Line	Intercity Bus Station	

* When operations commence in 2021, the MRT Sungai Buloh-Serdang-Putrajaya (SSP) Line will begin from Kwasa Damansara Station. This brings the total number of the stations for the SSP Line to 38 including the Kwasa Damansara Station, Kampung Selamat Station and Sungai Buloh Station which are built under the MRT Sungai Buloh-Kajang (SBK) Line. Therefore, the SBK Line will also begin from Kwasa Damansara Station. This will reduce the number of stations for the SBK Line from 31 to 29 stations.